WHAT IS CLAIMED IS:

1. A method of fabricating a thin film transistor, comprising the steps of:

forming a gate insulating layer on an active layer;

forming a gate on the gate insulating layer;

forming an excited region in an exposed portion of the active layer by implanting hydrogen ions to the active layer by using the gate as a mask; and

forming an impurity region by heavily implanting impurity ions to said excited region while the excited region remains in an excited state.

2. The method of claim 1, wherein the gate insulating layer is formed by depositing silicon dioxide or silicon nitride on a glass substrate.

3. The method of claim 1, wherein the active layer is formed by depositing undoped polycrystalline silicon.

4. The method of claim 3, wherein the undoped polycrystalline silicon has a thickness of between about 400 and 800Å.

5. The method of claim 3, wherein the active layer is formed using chemical vapor deposition process.

6. The method of claim 1, wherein the active layer is formed by depositing amorphous silicon and crystallizing the amorphous silicon by laser annealing.

7. The method of claim 1, wherein the exposed portion of the active layer is formed by the steps of

depositing an another layer of silicon dioxide on the gate insulating layer to cover the active layer;

depositing a conductive material on the another layer of silicon dioxide; and

patterning the conductive material and the another layer of silicon dioxide to form an insulating layer and to form the gate over a selected portion of the active layer.

8. The method of claim 7, wherein the gate insulating layer and the gate comprise a thickness of about 500-1500Å and, about 1500-2500Å, respectively.

9. The method of claim 1, wherein said hydrogen ions are implanted with implantation energy between about 50 and 150KeV.

10. The method of claim 1, wherein said hydrogen ions are implanted with a dose of between about $5x10^{14}$ - $5x10^{16}$ ions/cm^2.

11. The method of claim 9, wherein said hydrogen ions are implanted to heat up the excited region to a temperature between about 200~300 degrees Celsius.

12. The method of claim 10, wherein said hydrogen ions are implanted to heat up the excited region to a temperature between about 200~300 degrees Celsius.

13. The method of claim 1, wherein said hydrogen ions are implanted in the active layer and simultaneously form the impurity region.

14. The method of claim 1, wherein the hydrogen ion implantation time is proportionately related to the size of the active layer.

15. A method of fabricating a thin film transistor, comprising the steps of:

forming an impurity region for a source and a drain region by implanting impurity ions on said impurity region; and

activating said impurity ions simultaneously with the step of forming the impurity region by maintaining the impurity region in an excited state due to ion particle mobility and excitation.

16. The method of claim 15, wherein the impurity region is formed by heavily doping the region with n-typed impurities.

17. The method of claim 16, wherein the n-typed impurities become self-activated due to the excitation of said impurity particles.

18. The method of claim 15, wherein the impurity region is formed by heavily doping the region with p-typed impurities.

19. A thin film transistor prepared by a process comprising the steps of forming a gate insulating layer on an active layer; forming a gate on the gate insulating layer; forming an excited region in an exposed portion of the active layer by implanting hydrogen ions to the active layer by using the gate as a mask; and forming an impurity region by heavily implanting impurity ions to said excited region while the excited region remains in an excited state.

20. The thin film transistor of claim 19, wherein the gate insulating layer is formed by depositing silicon dioxide or silicon nitride on a glass substrate, and the active layer is formed by depositing undoped polycrystalline silicon.

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